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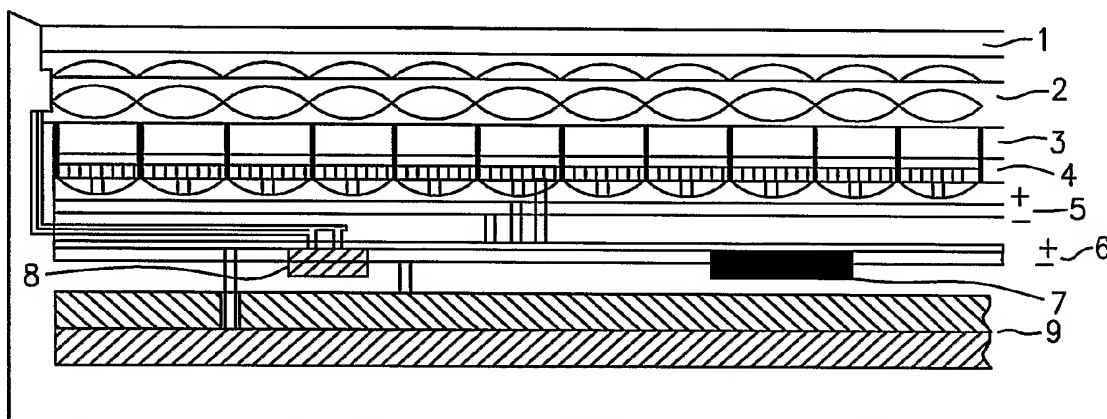
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(54) Title: APPARATUS FOR IMAGING USING AN ARRAY OF LENSES



(57) Abstract: An imaging system/camera consisting of multiple nano-sized optical elements arranged in an array format with more than one pixel per optical element will have a higher resolution than each element would be capable of individually, since each element being at a different point gathers slightly different overlapping information. Hence by processing such information one can obtain a clear image. Furthermore multiple information from sectors of an array of sensors can be processed to obtain 3-D, stereotypic and panoramic imaging and may be connected to each other allowing seeing around obstacles as well as enabling full 3-D tracking and/or metric determination of an unknown object. Color/spectroscopic imaging can be achieved by utilizing equally sized lenses and multi-wavelength sensing layers below the lenses. However, color/spectroscopic imaging and/or spectroscopy can be achieved by taking advantage of unique optical properties of nano-scaled lenses accepting various wavelengths below their diffraction limits.

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